

What is claimed is:

1. A structural panel for use in building construction, comprising  
a first skin having a first face;  
a second skin having a first face spaced apart from the first skin first face;  
a reinforcing member having a first surface fixed to the first skin first face and a second surface fixed to the second skin first face;  
a first foam piece having a first surface fixed to the first skin first face, a second surface fixed to the second skin first face, and a third surface facing a third surface of the reinforcing member; and  
a second foam piece having a first surface fixed to the first skin first face, a second surface fixed to the second skin first face, and a third surface facing a fourth surface of the reinforcing member.
2. The structural panel of claim 1, further comprising a first interlocking edge and a second interlocking edge, the first interlocking edge configured to interlock with a second interlocking edge of a second panel.
3. The structural panel of claim 2, wherein the first and second interlocking edges are formed from the first and second skins.
4. The structural panel of claim 2, wherein the reinforcing member is substantially parallel to the first interlocking edge.

5. The structural panel of claim 1, wherein the first and second foam pieces are fixed to the reinforcing member.

6. The structural panel of claim 1, wherein the first skin comprises aluminum.

7. The structural panel of claim 1, wherein the first skin comprises steel.

8. The structural panel of claim 1, wherein the reinforcing member comprises metal.

9. The structural panel of claim 8, wherein the width between the third and fourth surfaces of the reinforcing member is greater than 0" and less than 0.40".

10. The structural panel of claim 1, wherein the reinforcing member comprises sheet metal.

11. The structural panel of claim 1, wherein the reinforcing member comprises a honeycomb material.

12. The structural panel of claim 11, wherein the reinforcing member comprises a paper honeycomb.

13. The structural panel of claim 11, wherein the reinforcing member comprises a nomex honeycomb.

14. The structural panel of claim 11, wherein the reinforcing member comprises an aluminum honeycomb.

15. The structural panel of claim 11, wherein the width between the third and fourth surfaces of the reinforcing member is greater than 0" and less than 1.25".

16. The structural panel of claim 1, wherein the reinforcing member comprises an aluminum foam.

17. The structural panel of claim 1, wherein the third surface of the first insulation piece abuts the third surface of the reinforcing member.

18. The structural panel of claim 17, wherein the third surface of the first insulation piece is bonded to the third surface of the reinforcing member.

19. The structural panel of claim 1, further comprising  
a third foam piece extending between the first skin and the second skin;  
a second reinforcing member extending between the first skin and the second skin  
disposed between the second foam piece and the third foam piece;

20. The structural panel of claim 1, further comprising  
a second reinforcing member extending between the first skin and the second skin, having a first surface facing the first foam piece and a second exposed surface opposite the first surface; and  
a third reinforcing member extending between the first skin and the second skin, having a first surface facing the second foam piece and a second exposed surface opposite the first surface.

21. A method of making a panel, comprising  
providing a first piece of foam;  
providing a first reinforcing member;  
providing a second piece of foam;  
forming a first planar surface including a surface from each of the first piece of foam, the first reinforcing member, and the second piece of foam;  
forming a second planar surface including a surface from each of the first piece of foam, the first reinforcing member, and the second piece of foam;  
providing a first skin;  
providing a second skin;  
applying a first skin to the first planar surface; and  
applying a second skin to the second planar surface.

22. The method of claim 21, further comprising the step of positioning the first reinforcing member between the first piece of foam and the second piece of foam.

23. The method of claim 21, further comprising the step of forming the first surface by aligning the first and second pieces of foam and the first reinforcing member.

24. The method of claim 23, further comprising the step of forming the first surface by cutting first and second pieces of foam and the first reinforcing member.

25. The method of claim 21, wherein the step of providing a first skin includes the step of providing a metal skin.

26. The method of claim 21, further comprising the step of providing a second reinforcing member,

wherein the step of forming a first planar surface further comprises forming the first planar surface including a surface from the second reinforcing member, and

wherein the step of forming a second planar surface further comprises forming the second planar surface including a surface from the second reinforcing member.

27. The method of claim 21, further comprising the step of providing a third piece of foam,

wherein the step of forming a first planar surface further comprises forming the first planar surface including a surface from the third piece of foam, and

1052.1104101

wherein the step of forming a second planar surface further comprises forming the second planar surface including a surface from the third piece of foam.